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COMMON PROBLEMS OF THE MEDICAL PRACTITIONER AND THE SPECIALIST IN THE DIAGNOSIS AND TREATMENT OF GYNECOLOGIC DISEASE*

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The medical practitioner and gynecologist have many common problems in the diagnosis and treatment of gynecologic disease concerning which much more rapid progress could be made if the two were to get together at regular intervals, determine better methods of cooperation, discard outworn ideas and ancient technics, and discuss the new and worthwhile in this field.

I would like to look upon today's paper as a step in this direction and I trust that my remarks will stimulate a free discussion of the various points I have to present. Some years of activity as a medical practitioner, apprentice in obstetrics and gynecology, and finally as a specialist, have convinced me that successful application of knowledge in this field is only achieved when there is complete cooperation between the general doctor and the gynecologist.

GYNECOLOGIC DIAGNOSIS

First of all, in the management of gynecologic disorders we must get more promptly at the diagnosis, and this move should initiate with the family practitioner. It is my opinion that there are many patients who come to a gynecologist for pelvic examination and diagnosis who could have been just as well, or better, taken care of by their family practitioner. Under ordinary circumstances the family doctor should be in a position to make a satisfactory pelvic examination and establish a diagnosis of health or disease in the reproductive area. He should be able to treat the minor or medical lesions, and the only patients who should ordinarily go to the gynecologist are those who present an unusual problem in diagnosis or who require the particular technics in treatment of a specialist. Several factors have mitigated against the success of this plan. Some of these I would like to discuss.

1. The doctor may not have been properly trained in medical school or in internship, or subsequently in the few postgraduate courses available. For example, I never placed a speculum in the vagina during my student days, and I had no out-patient work during internship which permitted me to learn about methods of office diagnosis. Today, in most of our medical schools this has been corrected, and I am happy to say the senior clerks participate in the out-patient department and one of the most important things they are taught is the technic of a pelvic examination. They are shown how to take smears of the urethra and the cervix, how to collect a biopsy, how to make a bimanual vaginol-abdominal examination, how to treat common local infections and ulcerations to the cervix and vagina, and what cases to refer to the hospital for additional diagnostic and therapeutic measures. For those who have missed these opportunities we must provide refresher courses in our medical societies and postgraduate institutes. Full use must be made of moving pictures and other forms of visual education. Better methods of training undergraduates and postgraduates must be provided.

2. The general medical practitioner may feel that he is inadequately equipped to do this work. This seems hardly sufficient explanation since there is so little equipment actually necessary to perform satisfactory gynecologic diagnosis. A good table, a satisfactory light, vaginal speculum of a few sizes, applicators, a biopsy punch, a cautery or coagulation apparatus, a silver or chromium urethral catheter and a few solutions are practically all that are needed. And there is possibly no other

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field of medicine where the organs involved are so accessible to inspection and palpation. There is nothing complicated about any of the diagnostic measures.

3. There is a feeling among general practitioners that so close is the friendship between doctor and patient that the patient is unwilling to submit to the embarrassment of a vaginal examination by her family physician. Probably this was true at one time, but I think it is a form of modesty that is vanishing rapidly. Most of the women in our population centers have been educated to the importance of complete physical examination and pelvic study. They rather expect such when they go to a physician, and they respect his thoroughness and judgment when he does. Among my patients are a number of our closest family friends, yet I do not think there is any great sense of embarrassment when these individuals come for gynecologic diagnosis or check-up. Social relations stop at the office door and the person becomes completely and strictly a patient with a medical problem.

4. And finally, the most deplorable situation is that in which the patient goes around the doctor and without his suggestion or approbation seeks consultation with a gynecologic specialist. How common this practice is you gentlemen know. How difficult it is to prevent, I can give you some idea. How unfortunate the situation is from the patient's standpoint is common knowledge and the patient soon finds out. The ideal plan, and the one which gives the greatest satisfaction to practitioner, patient and specialist is that in which the medical doctor calls up about the patient who puzzles him, makes a consultation appointment for the patient, thus establishing a thorough understanding between the three parties concerned. Under the latter conditions the specialist makes his report and his recommendations to the family doctor, the family doctor discusses these recommendations with the patient, and the two decide whether they are to be accepted or discarded, or further opinion sought. How important such a liaison is to the ultimate success of any treatment or operative procedure, or follow-up, cannot be impressed upon some patients. Nor will they ever understand how great a loss in personal security, or personal relationships with their own family physician has been sacrificed by their seeking outside advice on their own volition.

One sometimes wonders in practice in a large city whether the nature of medical practice itself is not changing. Instead of having a family doctor the patient has a specialist for her nose and throat, an internist for her gastro-intestinal tract, a surgeon for her gall bladder, and a gynecologist for reproductive tract disease. Which one of these several personages is to become their medical confidante is an unsettled question. Sometimes this seems to be the internist, sometimes it seems to be the gynecologist or obstetrician. But it might be any one of the four, and probably none of them is in a position to handle the over-all medical picture as well as a medical practitioner would be. However, there actually are few general practitioners in metropolitan areas, and as a result specialists are dividing up the human anatomy among themselves. I suppose this inefficient and unsystematic development inevitably will adjust itself as time goes on.

None or all of these difficulties are insurmountable. There are many men whom I have known who have gone into general medical practice and have equipped themselves thoroughly, both with physical equipment and with medical training, to do a high type of general medical practice much approaching that of the internist, and who occupy a position in their communities unrivalled by, and unencroached upon by any specialist. It is possible to turn back the public to the idea that their basic diagnosis should come from the family doctor, and if the latter will do this job the gynecologist will become a consultant and an accessory advisor. The winning back, however, depends not only upon high ethical standards on the part of the specialist, but also upon a demonstration of basic ability, of proper equipment, and of proper training on the part of the general practitioner.

THE DIAGNOSIS OF REPRODUCTIVE TRACT CANCER

The most important disease in gynecologic practice and the one to which we can best devote our attention is cancer—cancer of the cervix, cancer of the uterus, cancer of the

ovaries. There is possibly no field in which there is greater need of improvement in practice and methods among both general practitioner and specialists. We would like to see these cases suspected sooner, diagnosed earlier, and brought to the hospital promptly for treatment. You no doubt would like to see them better treated, more effectively relieved, a higher percentage of cures, and the patient returned to you at least no worse off than when she left.

As to curability and treatment, I may say that there is no uniform and accepted plan for the handling of carcinomatous disease of the cervix. The pendulum swings between radical surgery and radiotherapy. Back and forth it goes and no one knows where it will stop. We all know, of course, that a high percentage of the early lesions can be cured by either of these two methods, and that only a small percentage can be cured by any method when the disease is late. Because there is a small chance of curability in some of the more advanced cases the gynecologist and the radiotherapist are led to treat all in the hope that alleviation or cure may result. Sometimes, of course, the situation is made worse.

DELAY IN DIAGNOSIS

As to the question of delay in diagnosis, patient and doctor may play a part, and this is worth discussing. In a cancer clinic we see many patients who put off seeing their doctor and have thus delayed too long in having a diagnosis made. But we have also seen many patients who suspected what was wrong and could get no physician to make an examination or take action. We have heard many pathetic and disturbing stories, on the basis of which we have formulated ideas as to where the doctor made his mistake. I would like to discuss some of these.

A. Endocrine therapy for bleeding. Patients tell us that when they complained of irregular vaginal bleeding, the doctor prescribed some pills or hypodermics without making any examination whatsoever. Medication was often continued for months. Oftentimes the patient went to several physicians before a pelvic examination was ultimately performed.

B. Second only in frequency to this error is the assumption that irregular bleeding and spotting is a normal condition during the menopause and should, therefore, create no alarm or require no examination.

C. Many times we have encountered the story of a patient with spotting or bleeding going to a doctor and being told to return when the bleeding has stopped because it is impossible to make a pelvic examination at this time. Frequently the bleeding never stopped.

D. The doctor may have made an examination and found no gross lesion of the visible parts and assumed, therefore, that cancer could not be present.

It seems scarcely necessary to point out the error of judgment in these various types of mishandling. On some points I would like to dwell for a few minutes,

In the first place irregular bleeding is abnormal at any time in a woman's life; it is a particularly significant and dangerous symptom at the time of the menopause and thereafter. It is a danger sign and requires prompt investigation, thorough pelvic examination, a diagnostic D. and C., and biopsy of the cervix if necessary.

In the second place there can be no basis for endocrine therapy at any time, without making an examination to determine what the medication is given for. A careful history and physical examination, a pelvic examination, a diagnostic D. and C., and biopsy of the cervix should rule out the possibility of cancer, and also help to established the nature of endocrine disturbances if such are present. Don't prescribe therapy blindly without it.

Third, never postpone an examination because a patient is bleeding. The presence of blood in the vagina does not in any way interfere with the making of a vaginal inspection or a vaginal palpation. It can be wiped away with a cotton sponge. As a matter of fact, when a patient is bleeding it is the best time to see where the blood comes from. If a patient has recurrent troublesome nosebleeds we ask the patient to return during the nosebleed to see where the bleeding point is, otherwise we may have great difficulty in finding the bleeding point. The bleeding helps us to localize the site of the lesion. Don't turn away the patient who is bleeding and tell her to come

back when it is over. It may never stop. She wants to know *now* what is wrong with her.

If the medical practitioner will remember these significant facts, examine these patients early, and refer them for further diagnostic measures if necessary, we specialists will do our best to provide prompt and effective methods of treatment.

The public is getting pretty well educated to the importance of early and accurate diagnosis in cancer, and of efficient treatment. They are growing less tolerant of mistakes and shortcomings. It is up to the medical profession to get busy and keep pace with the laity.

In Philadelphia we have recently started a study of the delay period in diagnosis and treatment of pelvic cancer, and we are trying to bring physicians together to talk over these problems in the hope that a study of this kind will have as beneficial an effect on early diagnosis as the Maternal Welfare Committee has had in the field of maternal mortality.

Our old medical professor at the Jefferson, Dr. Thomas McCrea, used to say that more mistakes are made from not looking than from not knowing. I am convinced this is true in the field of gynecologic cancer. We make our mistakes from assuming that an innocent and harmless condition is present without thinking of and looking for the terribly deadly one that may actually be there. We will never improve this situation until we begin to look.

PERIODIC HEALTH EXAMINATIONS

The discussion of the problem of gynecologic cancer brings up the subject of periodic health examination in women. While this has been a slow development in general medicine, it has been a very rapid one in gynecology. Carefully conducted surveys, such as the one by Dr. MacFarland in Philadelphia, indicate the value of semi-annual checkups in detecting the presence of early cancer and in correcting other minor lesions of the reproductive tract. Women have heard about these studies, feel that they are important, and are anxious to participate in the program. Many have had difficulty in getting their doctors to do this for them. Perhaps this has been difficult or impossible during the war years when doctors were busy with active practice and had little time for the preventive phases of medicine. Now that the war is over and conditions of practice will improve, this procedure should constitute one of the important progressive moves in medicine.

There is no reason why most of these periodic health examinations should not be made by the medical practitioner rather than by a gynecologist, for here again too many patients have drifted into the gynecologist's office who could well be taken care of by family physicians. How important a part of practice this has become I can tell you when I say that 20 - 25% of the patients seen at the office come for periodic checkup. All of these are individuals who either have no family doctor or ones whom the family doctor specifically referred to the gynecologist for this purpose. This is routine work and routine diagnosis which might just as well be done by the family practitioner. The public is waiting expectantly for this service to be provided.

THE USE OF ESTROGEN

Another subject on which the gynecologist and the general medical man should get together is the question of administration of endocrine products. I say this because the indiscriminate prescribing of these products constitutes in many cases undesirable, and, in a few instances, actually dangerous therapy. Observation of both private and ward practice has driven me practically to the point of therapeutic nihilism as regards the use of endocrines in gynecology. I think it might be safely stated that altogether more harm than good has been accomplished.

One of the great difficulties that has been created by estrogen therapy is the production of temporary activity of the endometrium, mild hyperplasia, and then the occurrence of intermittent bleeding especially upon withdrawal of the drug. On continued administration of the drug the endometrium is built up to a point where it ultimately undergoes degeneration and bleeding occurs. Inasmuch as the administration of these preparations is most commonly conducted during the menopausal and post-menopausal period there is created a situation in which no one can tell whether the bleeding is due to the estrogen effect or whether it is due to adenocarcinoma of the endometrium. I have many patients in

whom bleeding has obviously been the result of the estrogen effect, and many others who have carcinoma of the endometrium. In such cases it is impossible to make a diagnosis, of course, except by the performance of a diagnostic D. and C. Wherever gynecologists meet today the common topic is this group of cases and the enormous number of curettages which must be done to establish an accurate diagnosis.

The other problem of estrogen administrations is whether these can and do produce carcinoma. Most of the studies that have been conducted on this problem have to do with laboratory animals, and it is frequently stated that an enormous dose would be required in the human being to produce the malignant degeneration that is observed in the experimental mouse or rat. However, there is a rapidly increasing number of cases in which the clinical evidence points toward the fact that in cancer-susceptible individuals the administration of these carcinogenic materials in long continued fashion may incite a carcinomatous growth. About a year ago the mother of a physician came to me who was in the post-menopausal period, complaining of a spotting which had been going on for several months. On taking the history I found that 1 mgm. of stilbestrol had been taken daily for over two years. In this case the uterus was scarcely enlarged. At first I thought I would just stop the estrogen and see what would happen, but on second thought decided the safest plan would be to do a diagnostic D. and C. The histologic study revealed an adenocarcinoma, Gr. II, of the endometrium. We were forced to go ahead with x-ray therapy in this patient and a complete hysterectomy. No one can say, of course, that this lesion might have developed anyway, but there are many other cases of a similar nature. I am of the opinion that adenocarcinoma of the uterus is on the increase, and I believe the free and easy prescribing of estrogens has something to do with it.

Unfortunately we have forgotten that there are many other useful drugs which can be employed for the treatment of menopausal and post-menopausal nervous symptoms. We have also forgotten that the menopause is a physiological period of a woman's life, and that natural changes and adjustments in the nervous and endocrine systems take place and must be allowed to proceed normally. By administrating estrogens we interfere with this gradual and normal adjustment. We stimulate the epithelium of the breasts and of the endometrium when the normal restraining effect of the basement membrane and other connective tissue barriers is being reduced. It is good therapy of itself to explain to these patients the change that is taking place, and try to help them by suggestion to adjust themselves physically and nervously to these changes.

Not only are the estrogens being given at the menopause, but they are given for all sorts of nervous complaints that occur any time within ten years of the menopause on the assumption that all of such disturbances are the result of early and progressive withdrawal of ovarian activity. This too I think is most unfortunate therapy, producing a disturbance in the normal relationships of the pituitary and the ovary, subjecting various sensitive tissues such as the breasts, the endometrium and cervix to undesirable excessive stimulus, and leading patients to believe that all of their disturbances are of a menopausal basis. For myself there are few places that I have found endocrine therapy to be of really dependable value.

The *first* efficacious application of female endocrines is that of progesterone in the treatment of threatened premature labor, of threatened late abortion, and as an adjunct in the treatment of threatened early abortion. Perhaps the work that is recently being done at Jefferson by Rakoff and Vaux will ultimately justify the use of combined estrogen and progesterone therapy in habitual abortion.

Second, testoterone proprionate has been found useful in the temporary arrest of bleeding in functional menorrhagia. Its effect, however, is transient.

Third, estrogens locally are useful in the treatment of atrophic vaginitis of the post-menopausal or senile patient. They have also been found useful as an adjunct in the treatment of certain vaginal infections. Their use should certainly be avoided in young children where there is a chance of depressing the pituitary.

Fourth, estrogens are useful in severe menopausal symptoms, but here the dose should be

kept down to the level that will provide moderate relief and no more. The amount of estrogen should also be progressively decreased and stopped as soon as possible, substituting other medication, and giving the patient's system a chance to readjust itself.

Aside from these several indications, the other uses of pituitary, estrogen, and progestin are problematic. There is a great deal written on this subject which is inadequately supported by experimental or clinical observation, much of which is confusing and a great deal indirectly contradictory. Even the trained endocrinologist has difficulty finding his way through the maze of contradictory data and clinical observations which have readily accumulated in the literature. Unfortunately, the whole situation has led to inadequacy of diagnosis and carelessness in therapy.

THE QUESTION OF GYNECOLOGIC SURGERY

Finally, when the question of gynecologic surgery arises, the combined judgment and opinion of the medical practitioner and the specialist are essential. Here it is particularly important to find the correct path between a proper conservatism on the part of the family doctor and the perhaps more radical viewpoint of the gynecologic surgeon. So often the gynecologist sees the gynecologic or surgical problem as an entity of itself. The family doctor sees the patient as a whole among her home surroundings, among the obligations of her dependent family. He is in a better position to weigh the operative procedure against the many economic, social and home factors which weigh upon the other side of the scale. Also, he sees many patients before and after operation, and he formulates a pretty good opinion as to what type of gynecologic surgery is actually going to do the patient any good, and what type may leave her just as much distress as before. He sees also the picture of her general health and has a better understanding of whether all the symptoms of which the individual complains are of pelvic origin or may be of neurologic and systematic nature. When the report comes back from the gynecologic specialist, therefore, it is the responsibility of the family practitioner to act as the court of last resort on the question of whether such operative procedure shall or shall not be done. In this connection I have set down some of the conditions which seem essential indications for surgery in this field.

The most commonly performed operation in the pelvis, the most important, and the simplest, is the diagnostic D. and C. This operation we are doing more and more often, and with greater and greater justification. As a matter of fact, it is actually a diagnostic procedure as the name indicates, rather than a therapeutic one. It is essential to the differential diagnosis of carcinoma from other, benign conditions. It can be done in a short time under simple intravenous anesthesia; the patient does not usually have to stay in the hospital more than 12 or 24 hours.

Operation for fibroid tumors should be done when the growths are increasing rapidly in size, when they are already large and tender, when they are causing pain and pressure on adjacent organs, and when the tumors show a disposition to bleed severely. Small, slowly growing tumors not associated with bleeding or other symptoms, tumors which are found simply in the course of a pelvic checkup, require no surgery. Small fibroids near the menopause associated with bleeding can be treated by x-ray or radium therapy after a diagnostic D. and C. is done. The use of radium as a treatment of fibroids in general is decreasing in popularity, and quite properly.

Pelvic inflammatory disease is now treated conservatively. In the acute phases chemotherapy is administered; in the more chronic phases, diathermy. Surgery is only employed in the case of painful sequellae.

Endometriosis of sufficient extent to cause severe symptomatology requires surgical exploration, removal of the grossly involved tissues and an effort to conserve ovarian tissue, and if possible, reproductive function. The latter is difficult to maintain. If symptoms follow conservative surgery, followup x-ray therapy may be employed.

Cancer of the reproductive tract in general calls for surgical extirpation with the exception of cancer of the cervix. Here, opinion is divided. We feel that complete surgical extirpation, or the Wertheim operation, is permissible in the instance of a Gr. I or II growth limited to the cervix. Anything beyond this certainly calls for x-ray therapy and radium.

Cancer of the vulva, cancer of the uterine body which is not spread too far, and cancer of the ovaries call for surgical treatment. And this should be prompt surgical treatment.

Fistula, either vesico-vaginal or rectovaginal, can be corrected surgically; sometimes successive operations are necessary. Here, of course, the patient is very anxious to have surgery in the light of her troublesome, annoying and disabling condition.

Prolapse of the uterus, cystocele, and rectocele can be corrected if there is sufficient supporting structure to which to attach the reconstructed parts. The Manchester-Fothergill operation is available for 1st to 2nd degree prolapse and can be employed in the childbearing period if not too much of the cervix is amputated. Abdominal or vaginal hysterectomy can be employed in other cases depending on whether there is intra-abdominal pathology, or whether there is complete prolapse and the situation can be approached successfully and easily by the vaginal route. Personally, I limit vaginal hysterectomy to cases of 2nd to 3rd degree prolapse of the uterus; and if there is intra-abdominal pathology I would prefer to approach the case by the abdominal route.

Ectopic pregnancy, ovarian cyst with twisted pedicles, etc., are of course acute surgical emergencies that must be taken care of at once.

In all of these instances mentioned the decision as to whether to operate or not of course depends then upon the extent of the lesion, its symptom-provoking character, acuteness of the condition, whether it is of immediate or remote peril. And in addition to all of these things, the general physical condition of the patient and the home circumstances, with which the medical man or the family doctor is the most familiar.

Summary

In an attempt to summarize these random remarks, I would say that the public is growing to expect a rather new and different type of medicine than we have for past generations provided. The public is growing more and more interested in preventive medicine, in early diagnosis, and the avoidance of disease when such is possible. This movement is particularly pronounced among women, and especially as regards their own peculiar medical problems.

The well educated and well informed woman today would like to find her doctor prepared to give her a complete and thorough examination from head to foot, including her pelvic organs, and prepared to establish at least a tentative or working diagnosis on the basis of this examination. Particularly when she has symptoms which she understands are suggestive of or concomitant with cancer of the reproductive tract she would like to have her condition gone over promptly and thoroughly. She would like to have all of the measures taken which will determine whether she does or does not have cancer.

It has been demonstrated that endocrines of one type or another, and particularly the estrogens, cannot be given indiscriminately and over long periods of time without causing profound disturbance in the endometrium and breasts, and perhaps stimulating neoplastic growths in a susceptible individual. Better control of this phase of our gynecologic and medical practices is indicated. Elimination of carelessness in diagnosis and in illogic therapy is sought.

Finally, the family physician should be cognizant of the result that can be expected from gynecologic surgical procedures. He should be in a position to act as arbiter between the patient and the gynecologist, and be final judge as to whether operation should or should not be performed. In this, of course, he assumes grave responsibility, but he is in a much better position to make this decision, being familiar with the patient's past medical history, her family relationships, her home obligations, etc., than is anyone else.

Let us hope, therefore, in the future that the proper and normal relationship between the family doctor and the gynecologist can be reestablished on the basis that the latter act simply as a consultant, advisor, and occasionally as a technician in the correction of conditions which require surgical relief.

Discussion

Dr. S. W. Rennie (Wilmington): Dr. Montgomery, it is a very gratifying thing to come to a meeting of this sort and have a paper where the members of the Society can go back home and find that they have gotten a number of very meaty subjects that they can use in their own practice, whether they are general practitioners or specialists. We feel your paper has been charmingly presented and it

is just filled with that type of knowledge that we would like to use in Wilmington.

The cooperation of the specialist with the general practitioner is very, very important, and the way you presented it, I think it is.

We all have the attitude that these patients should be taken care of by the general practitioner under certain conditions. There is one thing you did not mention, however; that is, the patient who comes in with a vaginal discharge. Some evening after office hours I feel that trichomonas in Wilmington was the means of making our bread and butter because it seems that all patients with trichomonas on that day have come in to see us. This particular technique can be handled by general practitioners. The diagnosis is very simple. However, there are a few tricks to that sometimes routine diagnosis.

The only way we make a diagnosis is to drop saline solution into the vagina with the applicator, then rub the saline solution on the slide and look at the slide. However, it has been called to my attention there are certain practitioners who, in order to keep the saline solution over a period of years, put in two or three drops of phenol and, of course, it kills the trichomonas under a microscope.

Another important thing that has to do with gynecology is the examination of the infant. That, I think, sometimes does require a specialist and also a good nurse to hold these infants and prevent them being so frightened. There are simple procedures, such as the gloved finger in the rectum and the small probe in the vagina. Feeling the probe with the rectal finger sometimes gives you an idea of what the vaginal tract seems to be like or contain, such as a foreign body.

In the examination of a patient who is quite sick, for instance, the elderly woman, we do make a diagnosis that sometimes might prevent an operation from which the old lady might never recover. The procedure again is one that can be done in the hospital and the patient go home in twenty-four hours. If a carcinoma with metastasis is seen, the patient is not subjected to a laparotomy with subsequent long hospitalization.

With reference to inflammatory disease, as Dr. Montgomery pointed out, it is treated conservatively nowadays and it is very gratifying to find that in future years one of the patients who withheld surgery and was treated medically gets married and has a child, whereas if something had been done you know very well both tubes would have been removed.

With reference to the diagnostic D and C's, sometimes we put it off a little too long especially in the cases where we do endometrial biopsies in the office. I have one patient that I did an endometrial biopsy on three different occasions and got practically no tissue but just what the pathologists said was blood. Later I did a diagnostic D and C in the hospital and she had a fundal carcinoma. Endometrial biopsy can give you a definite answer. However, that answer is that this patient does not have a carcinoma. I do not think we should let it ride if the bleeding continues: she should have a diagnostic D and C.

DR. MONTGOMERY: I thank you for discussing this paper so kindly. I agree with most of the statements that have been made. What we have to do in our medical institutions in the future is to spend more time upon the question of diagnosis and office treatment in gynecology particularly because these are going to be the principal interests of the general practitioner, for the time is not too far ahead when most operative obstetrics as well as most gynecological surgery in the hospital will be done by men who have had postgraduate training. Medical gynecology is becoming an ever more important part of the doctor's work. I think those who practice gynecology will support this statement, that of the patients we see in the office nine out of ten are problems which can be handled medically and only one out of ten presents a surgical problem.

As regards endometrial biopsy collected in the office and the Papanicolaous staining of cells in vaginal secretion, these are diagnostic measures which are beginning to find favor in many quarters. Both of these are valuable when they are positive. If the findings are negative and symptoms are still present, then one must resort to that final criterion of gynecologic diagnosis—the diagnostic D. and C. This is probably the most important operation in gynecology.

I thank the Society for the very kind invitation to be here, and I have enjoyed the morning very much.

THEORETICAL AND PRACTICAL ASPECTS OF THE PROBLEMS OF HUMAN STERILITY

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Sterility and infertility are frequent phenomena of modern society. In the years 1910 to 1930 of 8,524,148 marriages 1,704,830 or 17 per cent remained childless[1]. The number of couples with one-child sterility was equally high. The sterility problem is of wide interest: the state and the people are concerned with the question of depopulation; to many families, childlessness is the central problem of life.

Voluntary childlessness is usually due to effective contraception. Involuntary barrenness may be due to infertility, to reduced fertility, or to absolute sterility. Infertility is a term used for couples who are not sterile but who cannot produce viable offspring: this may be due to persistent miscarriage, abortion, prematurity or stillbirth. Some of these phenomena are still obscure; some can be explained by serologic incompatibility. Reduced fertility, often called "relative sterility," is due to a combination of fertility-reducing factors of either the male, the female, or both. A combination of from two to five such factors is common[2]. Absolute sterility occurs if the fertility-impairing factors are irreparable: it is defined as the male's inability to fertilize and the female's inability to conceive. A marriage is considered barren if it remains childless after two years of unrestricted mating.

The problem of sterility has to be analyzed from three points of view: causes, diagnosis, and treatment. There is such close interdependence of the three aspects that discussion of one without the others is hardly possible. Both sexes share equally the responsibility for childlessness and deserve, therefore, equal medical attention.

Possible Causes of Infertility[3]

Female	Male
1. OVARIAN	1. TESTICULAR
a. Congenital anomalies: aplasia, hypoplasia—bilateral	a. Congenital anomalies: aplasia, hypoplasia, total or partial cryptorchidism—bilateral
b. Intrinsic factors: hypoestrogenism, atrophy	b. Intrinsic factors: impaired spermatogenesis, atrophy
c. Secondary failure: other endocrinopathy: pituitary gigantism, dwarfism; acromegaly, adiposogenital dystrophy, Cushing's syndrome, Simond's cachexia; hyper- or hypothyroidism, cretenism, myxedema, toxic goiter; Addison's disease, medullary adrenal tumor, cortical hypo- or hyperplasia, tumor	c. Secondary failure: other endocrinopathy: pituitary gigantism, dwarfism; acromegaly, adiposogenital dystrophy, Cushing's syndrome, Simond's cachexia; hyper- or hypothyroidism, cretenism, myxedema, toxic goiter; Addison's disease, medullary adrenal tumor, cortical hypo- or hyperplasia, tumor
d. Circulatory disturbances: pelvic congestion, due to uterine displacement, torsion of pedicle, infarction, adnexitis, postoperative adhesions, abnormal peritoneal folds	d. Circulatory disturbances: pelvic congestion, varicosity, varicocele, torsion of spermatic cord, infarction, postoperative adhesions
e. Mechanical interference with ovulation: endometriosis, microcystic change, retention cysts due to failure of graafian follicle to rupture, persistant corpus luteum, oophoritis-primary, secondary, gonorrhoic, tuberculous, sclerotization, dermoid, various tumors, pressure from tunica albuginea thickening, prolaps of ovaries	e. Mechanical interference with spermatogenesis: orchitis — primary, secondary due to parotitis; gonorrhea, tuberculosis, tertiary syphilis, fibrosis, sclerotization, dermoid, cysts, various tumors, pressure from hydrocoele, periorchitis
f. Constitutional factors: metabolic, obesity, nutritional, lack of proteins, minerals, hypovitaminoses, chronic intoxications, lead, arsenic, zinc, aniline dyes, alcoholism, abuse of nicotine, morphinism, cocaine, quinine; focal infections; debilitating diseases, esp. tuberculosis, malaria, small pox, typhoid fever, diabetes; certain types of insanity, epilepsy, mental deficiency.	f. Constitutional factors: metabolic, obesity, nutritional, lack of proteins, minerals, hypovitaminoses, chronic intoxications, lead, arsenic, zinc, aniline dyes, alcoholism, abuse of nicotine, morphinism, cocaine, quinine; focal infections; debilitating diseases, esp. tuberculosis, malaria, small pox, typhoid fever, diabetes; certain types of insanity, epilepsy, mental deficiency.
g. Castration: radium, alpha radiation, x-ray, surgical, traumatic - bilateral	g. Castration: radium, alpha radiation, x-ray, surgical, traumatic - bilateral
h. Physiologic factors: immaturity, senility	h. Physiologic factors: immaturity

*Pathologist, Wilmington General Hospital.

i. Temporary: constitutional factors —"f", change of climate

2. TUBAL

a. Congenital anomalies: aplasia, hypoplasia, obstruction

b. Circulatory disturbances: tubal spasm, isthospasm

c. Mechanical interference: distortion by ovarian, parovarian cysts, tumors, angulation, kinking, adhesions about ovary, tubal fimbria, peritoneal folds, displacement

d. Altered physiology: inadequate peristalsis, abnormal current of cilia, wandering of ovum to opposite side

e. Inflammatory occlusions: inspissated mucous plug, catarrhal adhesions, puerperal or non-puerperal infections, gonorrhea, tuberculosis, syphilis, strictures, stenosis, perisalpingitis, peritonitis, appendicitis, hydropyosalpinx

f. Surgical interference: removal, ligation

3. UTERINE

a. Congenital anomalies: aplasia, hypoplasia, atypia, bicornate, biseptate uterus, atresia or stenosis of internal orifice

b. Mechanical interference: fibromyoma, carcinoma, adenomyosis, lateral displacement, ante-, retroflexion

c. Inflammatory changes: endometritis, scars after induced abortion

i. Temporary: constitutional factors —"f", change of climate; overwork; physical, mental strain; acute hyperpyrexia incl. occupational exposure, artificial fever; sexual exhaustion

2. DUCTULAR

a. Congenital anomalies: aplasia, hypoplasia, obstruction

b. Circulatory disturbances: spasm of vas deferens

c. Mechanical interference: pressure, torsion, adhesions, kinking, angulation

d. Altered physiology: excessive spermatophagia in the ampulla

e. Inflammatory occlusions: strictures at lower pole of epididymis, of ejaculatory ducts, of vas deferens, of urethra, tuberculosis — if complete occlusion; aspermia

f. Surgical interference: removal, ligation

3. GLANDULAR

a. Congenital anomalies: aplasia, hypoplasia of prostate, seminal vesicles

b. Mechanical interference: hypertrophy, adenoma, carcinoma of prostate, concrements of prostate

c. Inflammatory changes: prostatitis, abscess, vesiculitis

d. Constitutional factors: glycopenic uterus[4]

e. Surgical removal: hysterectomy

f. Physiologic factors: pregnancy

4. CERVICAL

A. Failure of reception of spermatozoa

a. acute ante-, retrodisplacement, absence, atresia, stenosis of external os

b. elongation, incomplete differentiation

c. intercurrent cervical hypertrophy, polyps, carcinoma

B. Hostility to spermatozoa

a. too viscis endocervical secretion, inspissation of plug, endocervicitis, scanty coital secretions, chronic pelvic congestion due to incomplete coition or constipation

b. chemical hostility: low pH due to infection, poor drainage, spermatotoxins?, douches, spermicidal jellies, suppositoria

c. incomplete cyclic preparation for insemination: due to ovarian failure[6]

5. COITAL — impotentia colundi

A. Mechanical interference — incomplete or impossible introduction

a. extreme obesity of abdomen, ankylosis of hips, spinal deformities

b. cysts of vulva, of Bartholin glands, of vagina, chronic hypertrophic vulvitis, elephanthiasis, granuloma venereum, tumors

d. Constitutional factors: glycolysis inhibitors[5]

e. Surgical removal: vesiculoectomy

f. Physiologic factors; abnormal: serologic incompatibility

4. SECRETORY

A. Abnormal seminal fluid

a. lack of mucolytic ferments in semen

b. vitality deficiency of spermatozoa due to abnormal prostatovesicular secretions: asthenospermia

c. volume deficiency of semen due to lack of secretions: oligospermia

B. Abnormal spermatozoa

a. numeric deficiency: oligozoospermia; generalized inferiority; asthenozoospermia; absence of mature spermatozoa: azoospermia

b. motility deficiency: numeric, per cent of active spermatozoa subnormal; lower degree, sluggishly motile: hypokinesis, abnormal motion, rotation: dyskinesis

c. morphologic atypia: teratozoospermia; immaturity of sperm population: shift to the left in spermiogram

5. COITAL — impotentia colundi

A. Mechanical interference — incomplete or impossible intromission

a. extreme obesity of abdomen, ankylosis of hips

b. hydrocoele, spermatocoele, varicocoele, tumors, elephanthiasis of scrotum

c. extravaginal tumors, extruded myoma, cysts, prolaps, large vulva, cervical hypertrophy	c. injured penis, fissures, ulcers, tumors; injury to corpora cavernosa, bulbo - cavernous, ischiocavernous muscles
d. absent, infantile vagina, vaginal septi, annular constrictions, unperforated, thick, rigid hymen, congenital, acquired atresia, stenosis	d. penis absent, too small, too large
B. Painful coital entry	B. Impotency — impotentia generandi
a. vulvar lesions, bartholinitis	a. endocrine due to castration, ennuchoidism, testicular failure
b. incomplete rupture of hymen, tender hymenal tags	b. secondary due to other endocrinopathy
c. vaginal lesions, vaginitis, atrophy, scars	c. local causes: congestion, infection, hypertrophy, ulcer, polyp
d. vaginal proximity of urethra	d. constitutional causes: chronic intoxication by drugs, chemicals, debilitating diseases, diabetes
e. urethral caruncles, urethritis, infected Skene's ducts	e. sexual exhaustion: excessive coitions, masturbation, nocturnal emissions
f. low public arch, narrow angle, heavy symphysis, fissureinano	f. neurogenic: central nervous system injuries, tumors, infections, tabes, multiple sclerosis, syringomyelia, traumatism to spine, nerves
g. vaginismus, spasm, psychogenic, reflectoric contraction of levator	g. psychogenic causes: distraction, fear, other emotions
C. Painful coital penetration	C. Faulty insemination
a. pelvic congestion	a. penis too long or too short, amputated
b. adnexitis	b. premature ejaculation
c. endometritis	c. hypospadia, epispadia, deformities
d. prolapsed ovaries	d. small urethral strictures
e. poor technic, dysparunia	e. poor technic, dysparunia

The major causes of impaired fertility of the female are tubal blockage, cervical abnormalities, or anovulatory ovarian deficiency. In the male, testicular failure plays the most prominent role. In both sexes, lowered fecundity is frequently due to hypothyroidism. Insemination errors play a certain role while other factors are in the background[7,8].

These facts influence the choice of minimum diagnostic procedures[9,10]: these consist of a complete history, a physical and laboratory examination of the couple, of semen studies, evaluation of tubal and cervical factors, and of the determination of the ovulation date.

Some of the steps of the fertility assay require further comments: It must be stressed that man and wife must be interviewed first separately and then jointly. The routine laboratory procedures are the same for both partners except for semen studies; the special procedures differ. Many special methods are available; their choice will depend upon the history, the clinical findings and the results of the basic diagnostic tests. The physical examination must be thorough, the endocrine and genital survey expert and complete.

SCIENTIFIC STERILITY ASSAY

(Essential methods indicated by an asterisk.)

Female and Male

1. HISTORY

a. Family history

grandparents
parents: dead or alive, age, diseases
siblings: number, ages, fecundity
diseases frequent in family
mental and hereditary diseases

b. Personal history

race, nationality, birthplace, date
residences, past, present
early childhood, development, diseases, esp. mumps
schools, education
adolescence
occupations, past, present
generalized infections
chronic diseases
venereal diseases, treatment
surgical operations, esp. herniae
traumatism, hospitalizations
vaccinations

c. Sexual history

—many questions to be repeated as to premarital, marital, extramarital phases—
first sexual desire
masturbation: first, frequency, duration, types, recent changes, pain, breast signs
heterosexual attraction, contact, relation
homosexual attraction, contact, relation
coition: first, frequency, hours, types, abnormalities, pain
orgasm, euparunia, dysparunia
contraceptives, duration, types
other sexual activities
promiscuity, duration, frequency
previous marriage, date, duration, children
widowed, divorced, separated; reasons

present marriage, date, duration, age at marriage, harmony
duration of infertility, previous treatment
female: number of previous pregnancies, results, dates
male: number of presumed paternity before marriage, out of wedlock

d. Constitutional history

physical type, shape and size of head
posture, features
height, upper half, lower half; span
weight, recent changes
eating and drinking habits, regularity, diet
alcohol, nicotin, drugs
personal hygiene, hot baths
sexual hygiene; female: douches; male: suspensories
attitude; religion, religious scruples
temper, disposition, recent changes
relaxation, music, dancing, reading, theatre, movies; selections
vacation, hobbies, physical exercise, sports, types

2. PHYSICAL EXAMINATION

nervous system, reflexes, eyes, ears
oral cavity, foci of infections, teeths, tonsils
respiratory organs, rate and type of respiration, dyspnoe
circulatory organs, pulse rate and type, palpitations, blood pressure
gastrointestinal tract, digestion, defecation, frequency, types
urinary organs, frequency of urination, amount
muscles, bones
extremities, varicosities
endocrine examination:
headaches, frequency, types, localization
vertigo, nausea, vomiting
eyes, exophthalmus, ptosis, strabismus, nystagmus, vision, signs
pupils, reflexes, miosis, mydriasis, signs
tremor, type, fingers, tongue, eyelids
sleep, dreams, frequency, character
fatiguability
skin, texture, marks, pigmentation, dermographism
perspiration, flushing, sensitiveness to cold, heat
distribution of fat
teeths, types
nails, types
secondary sex characteristics: breasts, quality, nipples
hair, beard, pubic, axillary hair, type, texture, distribution
stigmata

3. GYNECOLOGIC EXAMINATION

vaginal, rectal
vulva, Bartholin glands
vagina
cervix
uterus
Fallopian tubes
ovaries
adnexa

3. UROGENITAL EXAMINATION

inspection, rectal
penis, foreskin, urethra
seminal vesicles
vas deferens
prostate
ejaculatory ducts
epididymi
testicles

4. GENERAL LABORATORY WORK

erythrocyte and leukocyte count, hemoglobin, hemogram
erythrocyte sedimentation rate
urine analysis
seroreaction for syphilis
basal metabolism rate
other tests and examinations as indicated: Schiller's test[11], smears and cultures from urethra, cervix, prostate, vesicles, seroreaction for gonorrhea, Rh-typing, specific-dynamic action of proteins, x-ray of skull, of spine, glucose or creatinine tolerance curve, blood cholesterol, glucose, calcium, phosphorus, chlorides, etc.

5. STUDIES OF OVARIAN FUNCTION —ovulation timing

a. History of irregular bleeding, intermenstrual bleeding, painful ovarian examination

b. Endometrial suction curettage*: within 4-12 hours after onset of menstrual flow; second within 1-4 days of next flow or 25-28th day of a 29-30 day cycle. Contraindications: pelvic inflammation, pregnancy. Results: ovulomenorrhea early or late secretory phase; anovulomenorrhea -early or late proliferative phase; atrophy; cystic glandular hyperplasia

c. Basal body temperature*[12]: mornings orally for 3 minutes daily for 3 cycles. Normals: mid-term drop to 96.8-97.4 F, premenstrual rise to 98 F for 10-14 days, drop with onset of next flow; irregular in anovulomenorrhea; permanent rise in pregnancy

d. 17 - ketosteroids[13]: estimated in two 12 hour night samples of urine. Normal: 5-14 mg a day. Increased in adrenal virilism, adrenal tumors, arrhenoblastoma of ovary.

e. Hormonal levels:
1—Follicle stimulating hormone[14, 15]. Normal: 45 mice units per liter blood at ovulation; 25 mice units daily in urine shortly preceding ovulation.

2—Estrogen[14, 15]: Normal: 0.1 to 50 mg per 100 ml. blood; increase in 2nd half of cycle; 0.42 mg daily in urine.

5. STUDIES OF TESTICULAR FUNCTION —spermatogenesis

a. History, diagnosed hypogonadism

b. Semen studies[18, 19]: after 5 days sexual abstinence sample obtained by masturbation or interrupted coition into clean, dry glass, kept at 21°C, examined within 30 minutes. Normals: minimum volume 2 cc, liquefies within 20 minutes, average 60-200 spermatozoa per cc, minimum 300 per sample, 80% normally motile; not over 20% abnormal forms. If subnormal, repeat. Hyaluronidase assay.

c. Testicular biopsy[20]: under local anesthesia. Results: normal; aplasia; hypoplasia; maturation arrest; atrophy; interstitial cell hyperplasia; fibrosis; sclerotization; combinations

d. 17-ketosteroids: estimated in 2 12 hour night samples of urine. Normal: 8-20 mg a day. Abnormal in hypogonadism, adrenal dysfunction.

e. Hormonal levels:
1—Follicle stimulating hormone[14, 15]. Normal: 100 or more mice units daily in urine.

3—Pregnandiol[16]: on 20-25th day of cycle. Normal: present in urine 48 hours after onset of ovulation until 1-3 days before onset of menses; daily average 5 mg.

f. Vaginal smears[17]: daily for 2 full cycles. Normal: ovulation indicated by cornification of vaginal epithelium cells.

g. Other tests: vaginal biopsy not practical. Spectrographic, cycloscopic methods unreliable.

6. STUDIES OF TUBAL PATENCY

a. Tubal persufflation, kymoinsufflation[21]: Rubin test on 2-4th postmenstrual day with CO_2. Contraindications: inflammations, pregnancy. Normal: pressure rises from 60 mm to 100 mm Hg within 15 seconds.

b. Fluoroscopy[22]: on 7th day after cessation of menses. Contraindications: inflammations, pregnancy, imminent menstruation.

c. Hysterosalpingography[22]: roentgenogram made 2 and 6 minutes after injection of contrast medium. To determine site of obstruction. Third film 24 hours later. To detect medium in peritoneal cavity. Repetitions as indicated.

7. STUDIES OF UTERINE AND CERVICAL FACTORS

a. Finding of submucous fibroid, uterine polyp, congenital defects. hypoplasia.

b. Uterosalpinography: as above

c. Post-coital study of seminal reception*[25]: Huhner test just before midinterval of cycle after 3 days sexual abstinence, 2 hours after coitus. Normal: 5-50 mostly motile spermatozoa per h.p.f. of microscope.

6. STUDIES OF DUCTULAR PATENCY

a. Testicular puncture[23]: in local anesthesia. Normal: spermatozoa present

b. Vasopuncture[24] and radiography: in local anesthesia.

c. Urethroscopic catheterization[24]: followed by vasopuncture and radiography. To determine site of obstruction. Indicated in aspermia.

7. OTHER PERTINENT TESTS

a. Compatibility test[26]: Only if semen normal. Normal: spermatozoa penetrate cervical mucus on microscopic examination.

d. pH of cervical secretion. Normal: 8.5 in intermenstruum. pH of vaginal secretion. Normal: 4.5 in intermenstruum.

The treatment of impaired fertility is governed by the couple's history, and the clinical and laboratory findings. Of all childless couples 50 per cent are absolutely sterile. In the others, the success of the treatment depends upon proper diagnosis and evaluation of the fertility-impairing factors and upon expert medication. If the man is absolutely sterile, artificial insemination has to be considered. If the woman is absolutely sterile, adoption of a child may solve the couple's problem.

TREATMENT OF STERILITY

General Treatment

1. Sex education on problems of life, passions, desires, parunia, orgasm, infertility, sterility.
2. Education as to role of diet, proteins, vitamins, malnutrition, obesity, alcohol, tobacco, drugs.
3. Change in sex hygiene, omission of hot baths, douches before and after coition, change of man's occupation, importance of rest, sport, vacation.
4. Psychotherapy where psychosomatic factors apparent, of vaginism, of premature ejaculation, of impotency.
5. Treatment of generalized diseases, such as diabetes, syphilis, malaria, rheumatism, etc., of focal infections and diseases remote from the sex organs, such as pulmonary tuberculosis, spondylitis, etc.
6. Treatment of hypothyroidism by daily oral desiccated gland; e. g. increasing doses from 1 grain up until patient develops a reaction, then 2/3 of the maximum dose. Under monthly control of the basal metabolism rate.
7. Conservative or surgical treatment of malformations, of inflammatory changes such as cauterization, conization or coagulation of the cervix, repair of herniae, prolapses, parametrial fixation, removal of polyps, cysts, treatment of specific processes and their sequelae, treatment of tumors, adhesions, etc.

Specific Treatment

Female[27]	Male[28]
1. OVARIAN FAILURE	1. TESTICULAR FAILURE
a. Gonadotropic therapy: for selected patients only after detailed hormone assays	a. Gonadotropic therapy: for selected patients only
b. Steroid cyclic therapy: for selected patients after detailed hormone assays	b. Androgen therapy: value disputed
c. Thyroid therapy; combined or alternating with gonadotropins: for selected patients only	c. Thyroid therapy; combined or alternating with gonadotropins: for selected patients only

d. Irradiation of pituitary and of ovaries; surgical therapy of ovaries: for selected patients	d. Vitamin E: value disputed
2. TUBAL	2. DUCTULAR
a. Repeated tubal insufflation	a. Urethroscopic catheterization, dilatation
b. Hysterosalpingography	b. Epididymo - vasostomy: if result of testicular biopsy satisfactory
c. Salpingolysis, salpingostomy, tubal implantation	
3. COITAL	3. COITAL
timing of coitus at ovulation, change of position in malposition of genitalia, sex play	spacing of coitions, pause before intercourse at ovulation, change of hour of coitus after rest, sex play
4. ARTIFICIAL INSEMINATION	4. ARTIFICIAL INSEMINATION
with husband's or another man's semen -man must be of same blood group and Rh compatible, and Huhner test must be positive—at ovulation; indicated by failure of cervical reception, in compatibility of cervical mucus with husband's semen, after previous complications due to Rh incompatibility	with own semen in irreparable hypo- or epispadia; with other man's semen in husband's irreparable semen deficiency or aspermia

The problem of sterility is complex. At present, only a handful of physicians—geneticists—devote all their time to fertility problems. Their number will grow: some day the study and treatment of infertility will develop into a special branch of medicine. The general practitioner usually cannot handle the problem adequately; the childless couple should seek the aid of a gynecologist. Many gynecologists, however, are not yet prepared to perform all the laboratory studies necessary for proper rating of the fertility-reducing factors in both sexes. The clinical and laboratory examination of the male partner are frequently neglected. The urologist, if consulted, is confronted with an analogous situation. Few clinical pathologists have sufficient experience to evaluate the tests employed in sterility assays.

Close collaboration between a gynecologist, urologist, and pathologist is needed. All three specialists must be interested in sterility and familiar with all approved technics. Some social workers, nurses and laboratory technicians should specialize in this field to assist the physicians. Popularization of the problem will create demand for fertility clinics throughout the nation. Financial support will be available: the government is aware of the importance of such clinics for the population problem; childless families are "willing to spend the last penny" in the effort to have a child; and disappointed sterile couples are eager to assist in research which would save others from disillusion.

The problem of infertility is in steady evolution. Every day brings a new development; every answer creates new questions. The few men interested in this field disagree as to details and often even as to general principles of the etiology, diagnosis, and therapy of infertility.

Organized planned investigation on a broad scale is important for progress. Theoretical work is needed: however, its value is limited, as observations on animals are not necessarily valid for human beings in the field of progeneration. Research should be carried on in close cooperation with active fertility clinics.

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CANCER CONTROL: THE DETECTION CENTER

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During the past few years public interest in the control of cancer has been aroused by lay and medical publications. The Federal Government and the legislatures of many states, including Delaware, have appropriated funds to be used for cancer control. The American Cancer Society has also raised large sums for the same purpose. As the result of nationwide publicity, and the knowledge that government and private funds are available, there is an increasing public demand for action of some sort. The medical profession must do its best to meet this demand, to direct the efforts at cancer control, and to cooperate with the various public and private agencies involved, or face the prospect of government invasion of this field of medicine. It is apparent that if the medical profession fails to improve existing conditions, governmental agencies will be willing and eager to enter this field of medical practice. It is also apparent that the Congress and state legislatures will establish such agencies if the demand for them is strong enough.

Cancer control can be improved in three ways: first, by the discovery of new methods of preventing or treating cancer; second, by more effective use of the methods now available; third, by the earlier diagnosis of cancer. With the first way we are not concerned here: millions of dollars are now being spent on a coordinated research program. The second way applies particularly to the training and experience of surgeons and others who are called upon to treat cancer. For many years the group consultation service of physicians trained in the various specialties has been the basis of the cancer clinics approved by the American College of Surgeons, and the number of such clinics is steadily increasing. The third way of improving cancer control is still of first importance: the early diagnosis of the cancer while it is still localized and curable. Cancer Diagnostic Clinics and Cancer Detection Centers are being organized to provide earlier diagnosis.

The distinction between the Detection Center and the Diagnostic Clinic is not always understood. The *Diagnostic Clinic* is primarily for the exhaustive diagnostic study of *patients* suspected of having cancer. Commonly, patients are referred by physicians for special study, such as x-ray examination, biopsy, endoscopy, etc.

On the other hand, the *Detection Center* offers a careful history, physical examination and selected laboratory tests to presumably *well* persons, not *patients. Patients* with symptoms of cancer should not be accepted, but should be referred to their physicians. Special diagnostic procedures may be recommended, but are not performed at the Center. Such a Detection Center performs much the same function as do life insurance companies which offer annual examinations to policyholders.

It is evident that the Detection Center offers the examinee something his physician can also give him. What then is the advantage of establishing or continuing such a center? The answer must take into account not only ideal medical care but also certain practical considerations: patient's psychology and physician's failures. Whether as doctors we like it or not, some of our patients prefer to go elsewhere with certain problems. The woman who has been delivered by her doctor will naturally consult him for gynecologic complaints, but the woman who knows him chiefly as a social acquaintance may prefer someone else to examine her breast. The man who fears cancer may also fear the ridicule of his old friend and fishing partner, and be dissatisfied with a cursory examination. Furthermore, the physician may also be handicapped by long friendship: he does not want to think that dear old Mrs. Jane Doe has uterine cancer any more than she wants to be examined by the boy who broke her windows and stole her pies. So when she finally tells him her "changes came back on her," he advises her to "come to the office if it keeps up too long"; and she may decide that six months is not too long.

At times the request of a patient for thorough examination to rule out cancer may be embarrassing or inconvenient. The doctor may not have all the facilities necessary or he may not have the time available. Such examinations (including a careful history) are sel-

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dom possible during office hours. A special appointment is necessary for adequate study of the patient, and the fee should be larger than that for the usual office visit. Both the appointment and the fee may counter to local convention. Finally, we must admit that lack of practice may make laryngeal, rectal or vaginal examinations valueless if the doctor has little occasion to make them frequently.

CANCER DETECTION CENTERS

For various reasons the Cancer Detection Centers have seemed to fill a definite need. The public has supported them enthusiastically. At present there are 124 such centers in this country. The medical profession has given them approval through national organizations such as the American College of Surgeons. In communities where such Centers are in operation, the practicing physicians have benefited by having examinees referred back to them for treatment of unsuspected conditions discovered on general examination. The following statistics are reported by Ochsner from Tulane: Cancer found, 2% of examinees; "precancerous" conditions for which treatment was recommended, 15%; other conditions for which care was advised, 30%.

The chief criticism of the Detection Center is its failure to include more than a fraction of the potential examinees. The expense of examining hundreds of applicants to find a few cases of cancer has been another criticism. The cancer incidence may be from 0.5% to 2% of examinees, the cost from $1800 to $7000 per case of cancer found. The objection is also raised that the center takes cancer detection from the physician's office, where the great bulk of patients must be seen, and tends to create yet another specialty. A minor criticism is that the Detection Center devotes much of its attention to other conditions than cancer and should rather be termed a Health Center.

With these considerations in mind we propose the following modified plan for the organization of the Cancer Detection Clinic in Delaware, using as a basic outline the minimum standard of the American College of Surgeons (Bulletin, June, 1947) which specifies County Medical Society approval and guidance as a prerequisite, equipment, patient records, disposition of examinees, and fees.

(1) Centers should be located in hospitals if possible.

(2) More than one center should be established.

(3) Appointments for examination should be made through a separate appointment center. When making appointments the applicant should be questioned about complaints; if definite symptoms are present he should be referred at once to his doctor, thus keeping the center for *well* persons.

(4) The examination should be primarily for cancer detection if public or private funds appropriated for that purpose are to be used to support the center. Hence we recommend screening type of examination, rather than the exhaustive study sometimes employed. This includes: (a) history, particularly gastrointestinal, urologic, and gynecologic; (b) examination of oral cavity, lymph nodes, abdomen and rectum in all patients; larynx, genitalia and prostate in men; breasts and pelvic organs in women; (c) laboratory procedures only as indicated, except perhaps 70 mm. x-rays and vaginal smears for cytology (Papanicolaou technique).

(5) The staff of the Center should be practicing physicians, who should receive adequate compensation for their services. We do not recommend the use of hospital interne or resident staffs, except for teaching purposes, and we do not recommend that the physicians serving on the staff receive only a nominal fee. We recommend that the total compensation of a staff physician be limited and that when that limit is reached he be replaced, or serve on a voluntary basis. We do not recommend the use of exclusive specialists in the detection Center. We recommend that each center have an experienced senior staff member to act as advisor in doubtful cases.

These suggestions have been carefully considered. Service on the staff of the Center should be sufficiently lucrative to attract physicians' services, rather than be granted grudgingly. Experience gained in searching for cancer should be beneficial to each staff physician in his own practice. The diagnosis of cancer is seldom difficult, provided one is alert to the possibility, and service on the staff of a detection center should make the doctor

(Concluded on Page 166)

+ Editorial +

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The Pure Investigator

We quote from a book that deserves to be more widely known than it is. "It seemed to Philip that the people who spent their time in helping the poorer classes erred because they sought to remedy things which would harass them if they themselves had to endure them, without thinking that they did not in the least disturb those who were used to them. The poor did not want large airy rooms; they suffered from cold, for their food was not nourishing and their circulation bad; space gave them a feeling of chillness, and they wanted to burn as little coal as need be; there was no hardship for several to sleep in one room, they preferred it; they were never alone for a moment, from the time they were born to the time they died, and loneliness oppressed them; they enjoyed the promiscuity in which they dwelt, and the constant noise in which they dwelt pressed upon their ears unnoticed. They did not feel the need of taking a bath constantly, and Philip often heard them speak with indignation of the necessity to do so with which they were faced on entering the hospital; it was both an affront and a discomfort. They wanted chiefly to be let alone..."[1]

For many years we have wished that those lines might be read daily to everyone entering upon a life of Social Service. What a preventive of busybodyism and moral snobbery they might be! They were written out of Mr. Maugham's experience as a medical student doing outpatient obstetric work. They recalled an experience of ours under similar circumstances when we visited blistering invective upon a woman who, oneday postpartum, was up cooking dinner for her family.

"Young man, when you've had as many babies as I have I'll listen to you telling me what to do."

Early convalescence was not fashionable in those days.

Salvation can never be inflicted on the poor by prying uplifters. The desire for it must come from within and the roots of the desire possibly may be stimulated and nurtured by education.

Thinking along those same lines—that a wide acquaintance with humanity in all its phases was an essential part of a doctor's training—our eye tripped over the following sentence, which occurs in an article on racial tensions in the city of Detroit and the measures being taken to combat them. "They include . . . volunteer investigators and reporters upon social conditions . . . teachers, social workers, ministers, students, bartenders, union leaders, shop foremen, and merchants, representing different geographic areas, racial, and religious groups."[2]

Why does not the group include doctors? The doctor should be the ideal investigator. He can go anywhere and be welcomed anywhere because, wherever he goes, he is minding his own business. He is not easily shocked by what he sees, because no matter what he encounters he often has seen worse elsewhere. He invades his territory because he is invited into it to relieve pre-existing suffering, not because he wants to poke his nose into a nasty situation so that he can write a thesis for his Ph. D. on the disgusting conditions he uproots. He is not swayed by preconceived theories as to what social conditions ought to be. He is summoned to face a fact and to do the best he can about it.

We wish Detroit every success in its effort to ward off trouble, but we think the city might get further if it included in its investigative staff a few hard-headed, unsentimental, practical doctors, who only encountered the unpleasant facts they found because they were invited to see them while minding their own business.—Editorial, *N. Y. S. J. M.*, August 1, 1947.

1. Maugham, W. Somerset: Of Human Bondage. New York, George H. Doran Company, 1915, pp. 598-99.
2. New York Times, Magazine Section, April 20, 1947, p. 17.

CANCER CONTROL: THE DETECTION CENTER

(Continued from Page 164)

alert. The limitation on the total compensation in any year insures rotation of the staff, and opportunity for many doctors to gain experience as well as income. There would be no bar to continued voluntary service for those particularly interested. The use of general practitioners for the staff is a practical necessity and also familiarizes them with various special examinations. The rotation of the staff tends to eliminate possible jealousy arising between doctors because of fancied special advantages.

It is granted that this plan is not perfect. The type of study recommended may fail to find some of the rarer forms of cancer, and certainly may not reveal other conditions such as hypertension, arteriosclerosis (retinal), diabetes, syphilis, malaria, leukemia without adenopathy or splenomegaly, portal cirrhosis, or microscopic hematuria. On the other hand, careful history and examination should suggest the need for special diagnostic studies, which might well be included in the recommendations made to the family doctor. Rotation of examining physicians has the disadvantage of introducing untried personnel and errors in diagnosis may occur. It is our opinion that the advantages of examining more people at lower unit cost and for training more physicians in office diagnosis of cancer outweigh the disadvantages. Since the Cancer Detection Center is still in the experimental stage of development, we believe modified plans are worthy of trial.

SUMMARY

(1) Better cancer control is a public demand which the medical profession must meet or resign to government agencies.

(2) Earlier diagnosis is the method available to all of us: new and specialized methods of treatment cannot be used by all doctors.

(3) The Cancer Detection Center is described and the reasons for its existence discussed.

(4) The drawbacks of present Detection Centers are outlined.

(5) A modified plan of operation for Cancer Detection Centers, within the standards set by the American College of Surgeons, is proposed. The major innovations suggested are: (a) the less exhaustive study of a larger number of patients at lower unit cost; and (b) the use of the Detection Center for postgraduate training of practicing physicians with adequate compensation for their services.

BOOK REVIEW

Gynecology With a Section on Female Urology. By Lawrence R. Wharton, Ph. B., M. D., Assistant Professor of Gynecology, Johns Hopkins Medical School; Assistant Attending Gynecologist, Johns Hopkins Hospital; Consultant in Gynecology, The Union Memorial Hospital, Hospital for Women of Maryland, Sinai Hospital and Church Home and Infirmary. Second Edition. Pp. 1027, with 479 illustrations. Cloth. Price, $10.00. Philadelphia: W. B. Saunders Company, 1947.

The chapter on anatomy of the female pelvis and abdominal wall is quite detailed and especially well illustrated. The portion on embryology is concise, the important facts are discussed and gives a comprehensive knowledge of the subject.

The physiology of the ovary and corpus luteum including endocrine changes and pathology with the correlation to clinical symptoms are discussed in detail, especially the relationship of endocrine functions and disturbances to menstruation and uterine bleeding.

The author devotes a good deal of space to the operative treatment of childbirth injuries. This is especially well illustrated. The latter is also true of operative technique for some of the more frequent operative procedures.

The chapter on diagnostic procedures is well written. Considerable space is devoted to the subject of sterility, including diagnostic procedures, also the study of seminal fluid. Some discussion on the technique of artificial insemination is also included in this chapter.

An entire chapter is devoted to the appendix in its relationship to gynecology. The chapter on the postoperative care as well as the prevention and treatment of postoperative complications is discussed in detail. The care and treatment of the normal hygiene of healthy women is also included in this book.

A section of the book is given over to female urology. This includes the anatomy, embryology, and physiology, as well as malformations of the female urethra and bladder. Diagnostic technique for cystoscopy is given, also some operative procedures and treatment.

This book is well written and quite exhaustive for a single volume. The specialist, as well as the general practitioner, will find a useful addition to his library.

1789—MEDICAL SOCIETY OF DELAWARE—1947

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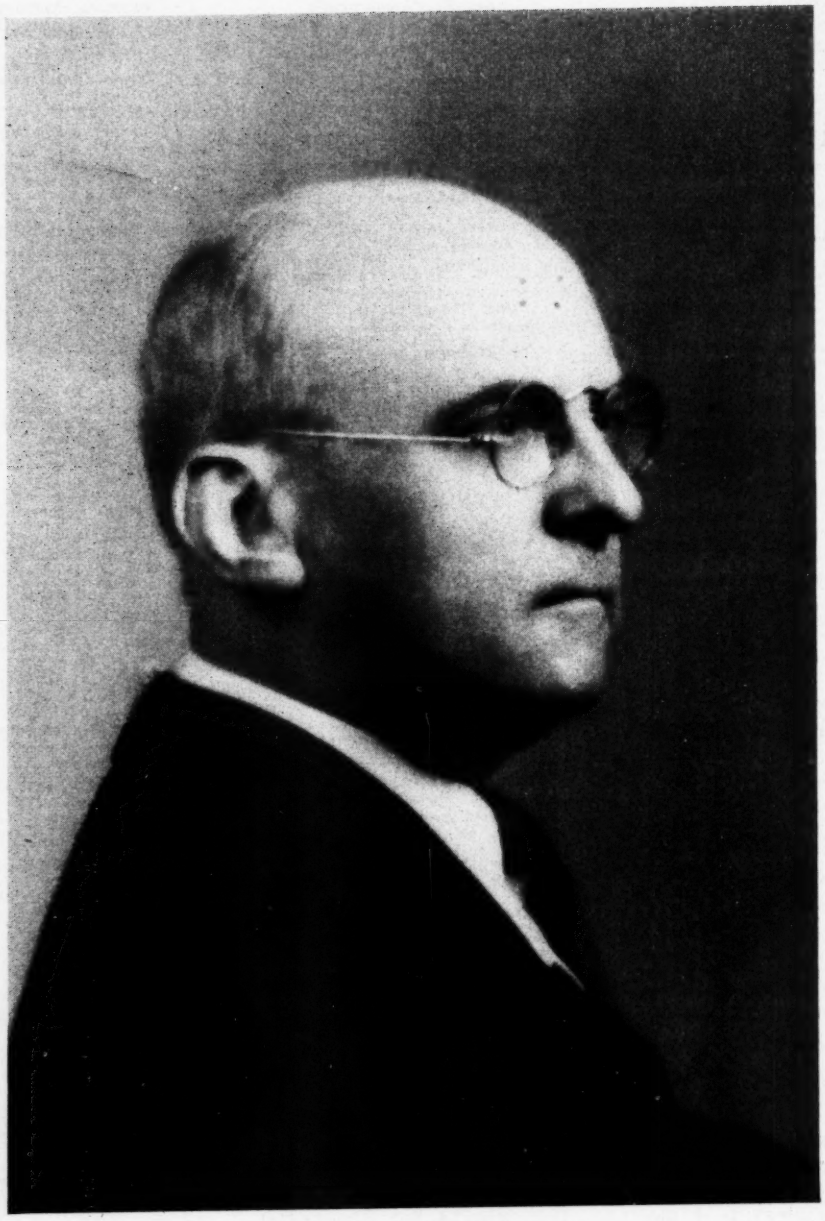

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